

# Rhodora

JOURNAL OF

THE NEW ENGLAND BOTANICAL CLUB

---

Vol. 57

November, 1955

No. 683

---

CONTRIBUTIONS TO THE FLORA OF NOVA SCOTIA:

V. RESULTS OF EXPLORATION IN  
CUMBERLAND COUNTY

W. B. SCHOFIELD

CAPE BLOMIDON, Kings County, has long been known as a botanically rich area containing a number of interesting montane species. *Saxifraga Aizoön* Jacq. (var. *neogaea* Butters) was reported from the area many years ago (Lawson, 1884), but no substantiating specimen seems to have survived.<sup>1</sup> A. E. Roland (1938, 1947) reported *Draba arabisans* Michx. and *Arabis Drummondii* Gray which are locally quite abundant on an exposed boulder slope. Recently J. S. Erskine (Smith & Erskine, 1954) has collected *Lycopodium Selago* L., *Poa glaucantha* Gaudin, and *Trisetum spicatum* (L.) Richter, var. *pilosiglume* Fernald from Amethyst Cove, a short distance from the Cape; these are local on the cooler cliff shelves.

A relationship of the flora of Cape Blomidon to that of northern Cape Breton Island has been implied on the basis of rather inadequate botanical evidence, but much evidence is accumulating as the floras of both areas become better known. The relation of Blomidon's flora to that of Cumberland County has been practically unknown, but the few collections from that county had suggested a positive relationship (Smith & Erskine, 1954).

Intensive botanical exploration in the northern portion of Cape Breton Island has stimulated interest in the montane

<sup>1</sup> A recent re-collection of this species from Cape Blomidon indicates that it is still present there: scattered plants on dry soil, shelves and pockets of lower portion of cliff, about 2 miles south of Cape Split, Cape Blomidon, Kings County, W. B. Schofield and D. H. Webster 5873.

element of Nova Scotia's flora. It was one of the aims of the writer to accumulate evidence from Cumberland County either supporting or refuting the implied relationships of its flora to more northerly areas. This exploration, carried on during the summers of 1953 and 1954, was done under the sponsorship of the Nova Scotia Research Foundation. The results have been most gratifying.

Unquestionably the most interesting association of montane species known in peninsular Nova Scotia is to be found in the vicinity of Cape d'Or, Cumberland County. The montane aspect of the west-facing cliff-top is quite remarkable. There the strong winds have so blasted the area behind the precipice that a narrow treeless border has been left wherein one finds the following association of species: *Saxifraga Aizoön* Jacq., var. *neogaea* Butters; *Astragalus Robbinsii* (Oakes) Gray; *Oxytropis johannensis* Fern.; *Chrysanthemum Leucanthemum* L., var. *pinnatifidum* LeCoq & LaMotte; *Festuca rubra* L.; *Sedum Rosea* (L.) Scop.; *Plantago juncooides* Lam, var. *decipiens* (Barnéoud) Fern.; *Poa pratensis* L. (*sensu lato*); *Poa compressa* L.; *Oenothera biennis* L.; *Cardamine parviflora* L., var. *arenicola* (Britt.) Schulz; *Antennaria canadensis* Greene; *Campanula rotundifolia* L.; *Trisetum spicatum* (L.) Richter, var. *pilosiglume* Fern.; *Cirsium arvense* (L.) Scop.; *Draba arabisans* Michx.; *Achillea lanulosa* Nutt.; *Solidago bicolor* L., and *Agropyron trachycaulum* (Link) Malte, var. *novae-angliae* (Scribn.) Fern.

As can be noted by the list, highly competitive weedy species are producing a marked change in the vegetation of the cliff-top. Doubtless the rare species will continue to persist in the more exposed areas where they tend to flourish.

Behind this narrow band is the tangled barrier of alder, which forms another distinct border to the cliff-margin vegetation. In areas among these alders are found small open patches of *Potentilla fruticosa* L., and *Heracleum maximum* Bartr.

Other areas that harbor interesting species include a high cliff at New Prospect, near Parrsboro, where *Draba arabisans* Michx.; *Carex rosea* Schkuhr; *C. convoluta* Mackenz.; *Muhlenbergia mexicana* (L.) Trin.; *Milium effusum* L.; and *Festuca obtusa* Biehler, are found in abundance (although not montane, these species are extremely local in the province). At Advocate,

above the salt marsh, on the eastern bank of Burke Brook, *Montia lamprosperma* Cham. abounds near a cold springy area and *Stellaria humifusa* Rottb., carpets large patches of the marsh near the brook.

The cliffs of Isle Haute, the largest of Nova Scotia's Bay of Fundy islands, also hold several interesting species, among which are *Draba arabisans* Michx.; *Arabis Drummondii* Gray; *Poa glaucantha* Gaudin and *Lycopodium Selago* L. (the final species being exceedingly rare).

The deeper brook valleys yielded rather sparse collections of montane species. McAlese Brook, New Prospect, was by far the richest, possessing on the moist slope near its waterfall *Carex atratiformis* Britt., and on the cliff above *Lycopodium Selago* L., and *Dryopteris fragrans* (L.) Schott., var. *remotiuscula* Komarov.

The flora of Cumberland County cannot be considered completely known on the basis of these two summers' collections, but these certainly point out the importance of intensive exploration in one area. In the following list are four species new to the province and numerous records of very local species.

All collections mentioned are from Cumberland County unless noted otherwise; all numbers given without the name of a collector are those of the writer. Specimens have been deposited at the Acadia University Herbarium.

Special acknowledgement is due the sponsoring institution: Nova Scotia Research Foundation, without whose support much of this exploration could not have been done. The writer is also most grateful for the considerable aid and helpful advice received from Dr. E. C. Smith of Acadia University and J. S. Erskine of Wolfville, Nova Scotia.

*Lycopodium Selago* L. Cliff-top, south side, Isle Haute (J. S. Erskine & W. B. Schofield, JSE 53.038); locally abundant in rock crevices of river bank, West Moose River (3170); local colony on moist cliff facing McAlese Brook, New Prospect (3234). The species, widely distributed, but local, in northern Cape Breton Island, is very rare in peninsular Nova Scotia.

*Sparganium minimum* Fries. Very abundant in marginal water of Wigmore Lake (4245). Known from a few local stations in the province; the above colony covered an area of about fifteen square yards.

*Potamogeton* spp. Several interesting species of this genus were collected and are to be treated later by D. H. Webster in a paper devoted to the genus.

*Najas flexilis* (Willd.) Rostk. & Schmidt. This species is now known to be fairly widespread (cf. Smith & Schofield, 1952). The following collections

from Cumberland County mark its wide distribution there: rare in marginal shallows of Leak Lake (3557); marginal shallows of Lake Killarney (4165); on sand of shallow water, Newville Lake (3606); in wrack of Mattatall Lake (3996); small riverside pond, Head of River Hebert (W. B. Schofield & D. H. Webster 5632).

*Sagittaria graminea* Michx. Common on gravelly shore of Newville Lake (3562); wet margin of Dewar's Lake (4073); rare in mud of lake margin, Lake Killarney (4156); margins of Big Lake, Victoria (5394). The above collections do not support the suggestion of Roland (1947), "apparently local and rare in the northern and central parts of the peninsula." Although it often does not flower, the stiffly arching, thick, underwater leaves readily distinguish it from any other known Nova Scotian species of *Sagittaria*.

*Festuca obtusa* Biehler. Abundant on hardwood slope, New Prospect (3453); very abundant on rich hardwood slope about one mile east of Refugee Cove (5191). A collection from Kings County is also of interest: occasional among small trees at base of high cliff, Cape Blomidon (Schofield & Webster 5230). Previously known only from Five Mile River, Hants County (Fernald, 1921).

*Poa alsodes* A. Gray. Damp margin of McGahey Brook (W. B. Schofield & P. A. Bentley 4795). This very slender species of *Poa* is readily distinguished in the field from any other Nova Scotian species, for the very capillary rachillas and culms, that often tumble over, are quite different from the far coarser aspect of most species. Known from a few locations in N. S.; in the above location it grew abundantly on the damp shaded flood plain of the brook.

*P. glaucantha* Gaudin. The following collections are all from Isle Haute: occasional in cliff crevices, usually damp, near Pigeon Point, North Side (3760); rock crevices, North Side, Boar's Head (3835); abundant on upper slopes and crevices, central North Side (3838); rare in cliff crevices, Wrack Cove (3886); rock crevices, Western Slope (3904). Previously known from a number of stations in northern Cape Breton (Smith & Schofield, 1952) and from Cape Blomidon, Kings County (Smith & Erskine, 1954).

*Schizachne purpurascens* (Torr.) Swallen. Very rare in rock crevices, West Moose River (3160). Hitherto, in peninsular Nova Scotia, this species was known from only Moore's Falls, near Kentville, Kings County. Two further collections mark its presence on North Mountain, Kings County: rare in spruce woods, Cape Split (3310A); occasional clumps on grassy slopes above boulder scree, Cape Blomidon (Schofield & Webster 4550). The species is locally abundant in northern Cape Breton Island.

*Sphenopholis intermedia* Rydb. Damp cliff gully, Moose Island, Colchester County (5041); seepy, mucky slope near Indian Springs Brook, Cape Blomidon, Kings County (Schofield & Webster 5233). Dore and Roland (1942) remarked that this grass was found "where its roots were in contact with limestone or gypsum." The basalt of the above stations (plus inclusions of gypsum found in the sandstone) would probably produce a similar basic soil. Very local in Nova Scotia and previously unknown from the north-central counties.

*Trisetum spicatum* (L.) Richter, var. *pilosiglume* Fern. Frequent on exposed cliff headlands, Cape d'Or (Schofield & Bentley 4798). Locally abundant in northern Cape Breton Island and known in peninsular Nova Scotia from the Cape Blomidon area.

*Muhlenbergia mexicana* (L.) Trin. Common at moist base of cliff and in

crevices, New Prospect (3449); banks of Wallace River, Wentworth (5248). Known previously from Kings, Hants, and Halifax Counties (Smith & Erskine, 1954). The station in Wentworth is most interesting, in that it is the first to be discovered on a river not emptying into the Minas Basin.

*Milium effusum* L. Occasional under hardwoods of slope at base of cliff, New Prospect (3142); damp woodland margin of McGahey Brook (Schofield & Bentley 4785). A species fairly frequent in the rich hardwood stands of northern Cape Breton Island, it was previously known from the mainland of the province from Cape Blomidon, Kings County, and Five Mile River, Hants County. In the hardwood forests of Cape Chignecto the species flourishes.

*Eleocharis nitida* Fernald. Rare on road to Cape d'Or (Schofield & Bentley 4817). Other collections of this rare species: occasional in moist soil over basalt, Elliott Lake, Annapolis County (W. B. Schofield & J. S. Erskine 3113); frequent on woods road, Cape Split, Kings County (3308, 3319); damp woodland roadside, Economy Mountain, Five Islands, Colchester County (4949); damp pockets in burned-over area, north east end, Scatari Island, Cape Breton County (E. C. Smith, W. B. Schofield, D. H. Webster, L. Slipp & J. Taylor 8596). The above collections were all found in association with soils derived from volcanic rock; this agrees with Fernald's remark about this species (Fernald, 1922).

*E. ovata* (Roth) R. & S. var. *ovata*. In small tufts, margin of pond, Truemanville (4200). This is a re-collection of the typical variety where Fernald (1950A) collected var. *Heuseri* Uechtritz and, apparently, the species, for he reports both from N. S. in the 8th edition of Gray's Manual (Fernald, 1950B). A collection of J. S. Erskine from Sandy Cove, Digby County (Erskine 52.1268) is also the species. On the margin of a dried-up pond behind the barrier beach at Black Point, Halifax County, the species abounds (E. C. Smith, W. B. Schofield, D. H. Webster & P. A. Bentley 12644).

*E. ovata* var. *Heuseri* Uechtritz. This is very abundant at Truemanville, being far more abundant than the species (4200a). A collection from the shore of Earltown Lakes (E. C. Smith, D. H. Webster & P. A. Bentley 11749) is also this variety. Previously known from Truemanville (Fernald 1950A). It is interesting to note that both of these taxa are found on soils derived from basic rock. Even the collections from Black Point are found on a small local area of Carboniferous limestone.

*Scirpus cespitosus* L., var. *callosus* Bigel. A single clump in rock crevice, Moose River (3251). This species, although exceedingly common on the Atlantic slope of Nova Scotia, seems to be very rare and local in the north-central counties.

*S. hudsonianus* (Michx.) Fern. Abundant in wet cliff crevices, West Moose River (3174). This species is also rare in the north-central counties, being represented by only one collection (in the vicinity of River Hebert) on Roland's distribution map of the species (Roland, 1947).

*Rhynchospora fusca* (L.) Ait. Abundant on boggy margin of Leak Lake (3385); common on moist margin of swamp, west end, Dewar's Lake (4045). Commonest in the south-western counties of the province, these mark further collections in the central portion.

*Rhynchospora capitellata* (Michx.) Vahl. Abundant on the swampy margin of Dewar's Lake (4064). This is also best known from the south-western counties. The above collection marks its extension into the northern part of the province. In common with all collections made outside the south-west-

ern counties, the above material was very much slenderer than that common to those counties.

*Cladium mariscoides* (Muhl.) Torr. Abundant on margin of Leak Lake (3481); marginal water of Mattatall Lake (4007); common on beach of Dewar's Lake (4041); damp swamp of Big Lake (4249). This species is much commoner in the province than previous records indicate.

*Carex rosea* Schkuhr. Abundant under hardwoods of slope near base of cliff, New Prospect (3143). Known from a few local stations in the province.

*Carex Mackenziei* Krecz. Wet quaking areas of salt marsh, Five Islands, Colchester County (4951); mucky area of salt marsh, Advocate, Cumberland County (5103). The distribution of this species is poorly known, but as Roland (1947) remarks, it is "probably general."

*Carex pedunculata* Muhl. Rich hardwood slope about one mile east of Refugee Cove (5190). Sterile plants of this species were noted on Moose Island, Colchester County, but were not collected. This species was previously reported from only two stations on North Mountain: Cape Blomidon, Kings County and north of Annapolis, Annapolis County. Another collection: from dryish open woods, top of North Mountain, Arlington, Kings County (D. S. Erskine 906). A collection of J. S. Erskine indicates its presence in Hants County: swamp, Oulton's Ridge, near Windsor (J. S. Erskine, June 8, 1947).

*C. atratiformis* Britt. Local on moist cliff facing waterfall, McAlese Brook, New Prospect (3226). Known only from northern Cape Breton Island, the above collection marks its first report from peninsular Nova Scotia.

*C. capillaris* L. var. *capillaris*. Tiny plants forming rounded cushions on seepy exposed slope at cliff-top, Cape d'Or (Schofield & Bentley 4804, Schofield 5168). Var. *major* Blytt is known from a number of stations in northern Cape Breton Island. The typical variety is readily distinguished from this by its possession of darker green leaves, shorter stature and in its formation of very dense tussocks rather than single erect clumps. New to Nova Scotia.

*C. comosa* Boott. Roadside behind dyke, Advocate (5155); abundant clumps in swamp, Truemanville (4192). Reported only from the Annapolis Valley, the above collections indicate its presence in north-central Nova Scotia.

*C. Tuckermanii* Boott. Local in meadow swale, Wallace River, Wentworth (5352). Known from Sweet's Corner, Hants County (Smith & Erskine, 1954).

*Juncus Vaseyi* Engelm. Abundant cespitose clumps in cranberry bog, Linden (5400). New to Nova Scotia; this fills in a range gap, for it is known from adjacent New Brunswick.

*Luzula parviflora* (Ehrh.) Desv., var. *melanocarpa* (Michx.) Buchenau. Wet wooded margin of McGahey Brook (Schofield & Bentley 4783); damp margin of Mill Brook (Schofield & Bentley 4825); rare on banks of Soldier Brook (5202). Reported once from peninsular Nova Scotia (Erskine, 1951), this from Three Sisters, Cumberland County. The above collections show that it is widespread (but never abundant) in the Cape Chignecto area.

*Trillium erectum* L., forma *albiflorum* R. Hoffm. Occasional among typical plants, alder thicket, North Side, Isle Haute (J. S. Erskine & W. B. Schofield JSE 53.041). This form was previously reported from North Mountain, Annapolis County (Roland, 1947).

*Malaxis brachypoda* (Gray) Fern. Rare in wet area beside trickle near

Indian Flats, Isle Haute (3773). Previously unknown from the province, the above collection fills in a gap in the range of this species, found locally in the neighbouring provinces and states.

*Liparis Loeselii* (L.) Richard. Rare in damp area in field near road, Isle Haute (3830); springy area, roadside near Folly Lake (3981); abundant in railroad ditch, Pineo Lake, Conn's Mills (5462). Its presence in the northern part of the province had not previously been suspected.

*Geocaulon lividum* (Richards.) Fern. Among heaths of bog, Spicer's Cove (Schofield & Bentley 4838). This is the second collection from peninsular Nova Scotia. A collection from among heaths of a moist heath bog, Auburn, Kings County (3097) is very close to the previously known station at Kingston. The species is widespread, but local, in Cape Breton Island.

*Polygonum hydropiperoides* Michx., var. *hydropiperoides*. In water of River Hebert, near south end of Newville Lake (3559). This species was previously known only from south-western Nova Scotia.

*Stellaria humifusa* Rottb. Brackish marsh near Cape d'Or (3948); forming mats near upper part of salt marsh, Advocate (5125). Previously reported as mainly from eastern Nova Scotia and Cape Breton Island, the above collections indicate its presence in the north-central portion of the province. A collection from the margin of a salt marsh, Five Islands, Colchester County (4950) indicates its presence in the adjacent county as well.

*Montia lamprosperma* Cham. Abundant on cold trickle margin, upper salt marsh, east side of Burke Brook, Advocate (3618). This species is known from three other widely separated stations (Brier Island, Digby Co.; Port Hawkesbury, Inverness Co.; and Northwest Arm, Halifax Co.). The above collection falls within the expected range of the species.

*Ceratophyllum demersum* L. On sludge-bottomed margin of Newville Lake (3607); in water of River Hebert, Newville (Schofield & Webster 5645); in wrack of Pineo Lake, Conn's Mills (5463). Reported from two other stations in the province, both in Kings County.

*Draba arabisans* Michx. Abundant in crevices of high cliff facing road, New Prospect (3150); cliff crevices, South Side, Isle Haute (J. S. Erskine & W. B. Schofield *JSE* 53.035, Schofield 3696); rare in cliff crevices and on exposed cliff top, Cape d'Or (Schofield & Bentley 4805); small moist rock outcrop on rich hardwood slope, one mile east of Refugee Cove (5199). Hitherto known very locally from Cape Blomidon, Kings County and from Cape Breton Island. It is relatively common on the cliffs of Isle Haute.

*Cardamine parviflora* L., var. *arenicola* (Britt.) Schulz. Among rocks near boat-house, East End, Isle Haute (3659); talus on cliff, North Side, Pigeon Point, Isle Haute (3786); seepy area of gully on cliff, Cape d'Or (5182). This taxon is doubtless much commoner than was suspected by the single reported station near Halifax (Roland, 1947). The following collections help to support this suggestion: very rare under damp shade of overhanging boulder, near P. Jack Cove, Brier Island, Digby County (1625); abundant in moist humus pockets of boulder talus, Cape Blomidon, Kings County (3084).

*Arabis hirsuta* (L.) Scop., var. *pyncocarpa* (M. Hopkins) Rollins. Small moist outcrop on rich hardwood slope about one mile east of Refugee Cove (5200). This species has been reported from Indian Brook, Victoria County (Smith & Erskine 1954). The following collection indicates its presence in Colchester County: talus slope, north-west side, Moose Island (4962). At the latter locality it was fairly abundant.

*Arabis Drummondii* Gray. Talus slopes near Western Slope, Isle Haute (J. S. Erskine & W. B. Schofield *JSE* 53.036, Schofield 3692); one plant on talus slope, central North Side, Isle Haute (3839). Another species known previously from Cape Breton Island and Cape Blomidon, Kings County.

*Sarracenia purpurea* L., forma *heterophylla* (Eaton) Fern. Peat bog, Spicer's Cove (Schofield & Bentley 4834). An interesting colour form known from a few local stations (Smith & Schofield, 1952).

*Saxifraga Aizoön* Jacq., var. *neogaea* Butters. Locally abundant on sheltered cliff shelves, Cape d'Or (Schofield & Bentley 4802, Schofield 5164). Previously known from Cape Breton Island and Cape Blomidon, Kings County.

*Potentilla fruticosa* L. Exposed cliff-top headlands, Cape d'Or (Schofield & Bentley 4811); cliff crevices above sea-stack near Refugee Cove (Schofield & Bentley 4819). Common at both the extreme northern and south-western ends of the province, the above collections note its local abundance in the north-central portion.

*Astragalus Robbinsii* (Oakes) Gray, var. *Robbinsii*. Depressed clumps on exposed cliff headlands, Cape d'Or (Schofield & Bentley 4800); depressed tussocks on talus above sea stack near Refugee Cove (Schofield & Bentley 4818). The treatment of Barneby in the *New Britton & Brown* has been followed. The above specimens differ only superficially from the description in the above-mentioned manual, and have therefore been included under the typical variety. These collections are of particular interest since they represent the rediscovery of a taxon thought to be extinct from its type area on "dry calcareous ledges, Winooski R., Vt." (Fernald, 1950B). It is relatively common and easily accessible at Cape d'Or. New to Canada.

*Oxytropis johannensis* Fern. Frequent in cliff crevices and on exposed cliff headlands, Cape d'Or (Schofield & Bentley 4799, Schofield 5183). This species has been known for many years from remote St. Paul Island, Victoria County. The above collection marks its first report from peninsular Nova Scotia.

*Geranium Bicknellii* (Britt.) Fern. Abundant on talus overgrown with poison ivy, base of cliff, New Prospect (3134). This species has been reported from very few localities.

*Impatiens pallida* Nutt. Luxuriant on slope, North Side, Isle Haute (3828). A rather uncommon species in the province, the above collection indicates its local occurrence in Cumberland County.

*Elatine minima* (Nutt.) Fisch. & Meyer. Occasional in shallow water of Leak Lake margin (3396); abundant on mucky margin of Lake Killarney (4180). This species appears to be widely distributed in Nova Scotia, but has been overlooked (cf. Smith & Schofield, 1952).

*Myriophyllum tenellum* Bigel. Abundant in marginal water of Leak Lake (3482); abundant in marginal water of Newville Lake (3601). Previously unknown from the north-central counties, but now found to be relatively frequent in lakes throughout the province.

*Conioselinum chinense* (L.) BSP. Seen, but not collected, on the banks of West Moose River; dry headland, Cape d'Or (Schofield & Bentley 4810). A rather rare species in the province, previously unknown from the north-central counties.

*Bartonia paniculata* (Michx.) Robinson, var. *iodandra* (Robinson) Fern. Damp margin of swamp, west end of Dewar's Lake (4048). The plants were unusually etiolated, possibly due to their submergence during at least



part of their growth period. This collection notes the appearance of this taxon in the north-central portion of the province, where it has been unknown.

*Lindernia dubia* (L.) Pennell. Damp gravel pit near Shinimecas Bridge (4218) (these tiny plants—up to 3 cm.—were growing among *Ludwigia palustris* and were flowering cleistogamously); damp, muddy bank of River Philip, near Oxford (5371). Known from only two other localities in the province.

*Littorella americana* Fern. In marginal shallows of Folly Lake (3999). All plants were sterile. This marks its first report from the north-central portion of Nova Scotia and its second collection from the peninsula. It is also of local occurrence in Cape Breton Island (cf. Smith & Schofield, 1952).

*Galium boreale* L., var. *intermedium* DC. A single colony on hill-top pasture, New Prospect (3262); dry field, Cross Roads (Schofield & Bentley 4700). Known previously from Cape Blomidon, Kings County.

*Campanula aparinoides* Pursh. Abundant on banks of Parrsboro River (3506); common in moist area near Frog Pond, Isle Haute (3722). This species appears to be more common than was previously suspected (cf. also Smith & Erskine, 1954).

*Lobelia spicata* Lam. Locally abundant in dry field near shore, Linden (5404). Previously known from Blomidon, Kings County.

*Megalodonta Beckii* (Torr.) Greene. In wrack of Mattatall Lake (3998). This appears to be the third report of this species from the province.—PERRY BIOLOGICAL LABORATORIES, ACADIA UNIVERSITY, WOLFVILLE, NOVA SCOTIA.

#### LITERATURE CITED

- BARNEBY, R. C. in Gleason, Henry A. 1952. *Astragalus* in the New Britton & Brown Illustrated Flora of the Northeastern United States and Adjacent Canada, Vol. 2, N. Y. Botanical Garden.
- DORE, W. G. & A. E. ROLAND. 1942. Grasses of Nova Scotia. *Trans. N. S. Inst. Sci.* **20**: 179–288.
- ERSKINE, D. S. 1951. Species newly or rarely reported from Nova Scotia and Cape Breton Island. *RHODORA* **53**: 264–270.
- ERSKINE, J. S. 1953. Additions and extensions to the Flora of Nova Scotia. *RHODORA* **55**: 17–20.
- FERNALD, M. L. 1921. The Gray Herbarium Expedition to Nova Scotia, 1920. *RHODORA* **23**: 89–111, 130–152, 153–171, 184–195, 223–246, 257–278, 284–301.
- FERNALD, M. L. 1922. Notes on the Flora of Western Nova Scotia. *RHODORA* **24**: 157–164, 165–180, 201–208.
- FERNALD, M. L. 1950A. Three additions to the Flora of Nova Scotia. *RHODORA* **52**: 18–19.
- FERNALD, M. L. 1950B. *Gray's Manual of Botany*, Eighth Edition, American Book Company, New York.
- LAWSON, G. 1884. Notice of New and Rare Plants. *Trans. N. S. Inst. Sci.* **6**: 68–75.
- PERRY, L. M. 1931. Vascular flora of St. Paul Island, Nova Scotia. *RHODORA* **33**: 105–126.
- ROLAND, A. E. 1938. Notes on the flora of Cape Breton Island. *Can. Field Nat.* **52**: 104–106.
- ROLAND, A. E. 1947. Flora of Nova Scotia. *Trans. N. S. Inst. Sci.* **21**: 95–642.

- ROLAND, A. E. & W. G. DORE. 1942. Notes on the Flora of Nova Scotia III. *RHODORA* **44**: 334-338.
- SCHOFIELD, W. B. & E. C. SMITH. 1953. Contributions to the Flora of Nova Scotia III: Some interesting white forms. *Can. Field Nat.* **67**: 93-94.
- SMITH, E. C. & W. B. SCHOFIELD. 1952. Contributions to the Flora of Nova Scotia I & II. *RHODORA* **54**: 220-228.
- SMITH, E. C. & J. S. ERSKINE. 1954. Contributions to the Flora of Nova Scotia IV. *RHODORA* **56**: 242-252.

---

## PLANTS NEW TO MISSOURI

E. J. PALMER AND J. A. STEYERMARK

SINCE the publication in 1935 of the Catalogue of the Flowering Plants of Missouri (*Ann. Mo. Bot. Gard.* **22**: 375-758), work has continued on the further botanical exploration of the state of Missouri and a large number of plants, including several genera not previously known in the state, have been added. The junior author of the Catalogue and of this paper has been particularly active and has made many collecting trips into nearly all parts of the state, resulting in some surprising discoveries. The senior author, since returning to Missouri in 1948, has devoted what time he could to an intensive exploration of several of the southwestern counties, with a few excursions into other sections.

The resulting new discoveries have been reported in *Rhodora* from time to time in several short papers contributed by the junior author and one by the senior author, as well as in a joint paper on new fern discoveries in the *American Fern Journal* **42**: 61-66. 1952. William B. Drew also reported the discovery of four new records for the state (*RHODORA* **44**: 248. 1942), George B. Van Schaack reported *Calamagrostis insparata* new to the state (*RHODORA*, **56**: 43. 1954), and C. L. Kucera published his findings of *Lyonia ligustrina* in Missouri (*RHODORA*, **55**: 155. 1953). The large number of additional plants now known in the state, as well as many changes in nomenclature and the interpretation of species necessary to bring it into conformity with the eighth edition of Gray's Manual, have made a revision of the Catalogue desirable, and it is hoped that such a revision can be published in the near future. The present paper is a further report of progress and a review of